

## UPPER MORELAND-HATBORO JOINT SEWER AUTHORITY

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December 26, 2018

Ms. Kristen Hall  
Air Protection Division  
U.S. Environmental Protection Agency - Region III  
1650 Arch Street  
Mail Code 3AP20  
Philadelphia, PA 19103-2029

**Re: Request for Clarification of 40 CFR Part 62 Subpart LLL  
PADEP Operating Permit # 46-00221-TVOP**

Dear Ms. Hall:

The Upper Moreland-Hatboro Joint Sewer Authority ("UMHJSA") requests clarification from the United States Environmental Protection Agency ("EPA" or the "Agency") regarding the potential applicability of certain regulations adopted by EPA pursuant to Section 129 of the Clean Air Act ("CAA") to UMHJSA's five-hearth sewage sludge incinerator (the "Multi-Hearth Incinerator") when used as an odor control device for the incineration of odorous sulfur-containing gases, including primarily hydrogen sulfide, generated at UMHJSA's wastewater treatment plant. Specifically, UMHJSA requests your concurrence that, where UMHJSA is subject to and complies with 40 C.F.R. Part 60, Subpart M (Emissions Guidelines for Existing Sewage Sludge Incinerators) ("Subpart M") and EPA's Federal Plan at 40 C.F.R. Part 62, Subpart LLL ("Subpart LLL") for the combustion of sewage sludge, the simultaneous introduction of gaseous materials into the multi-hearth incinerator would not constitute a modification that could trigger the applicability of the New Source Performance Standard ("NSPS") for sewage sludge incinerators at 40 C.F.R. Part 60, Subpart LLLL ("Subpart LLLL").

By way of background, UMHJSA operates a municipal wastewater treatment plant in Willow Grove, Pennsylvania (the "Facility"), which includes the Multi-Hearth Incinerator. As part of its treatment of the municipal wastewater that is sent to the Facility, UMHJSA separates out sewage sludge, which is then further dewatered before it is incinerated in the Multi-Hearth Incinerator. On March 21, 2011, EPA promulgated Emission Guidelines at Subpart M that are applicable to existing sewage sludge incineration units like UMHJSA's Multi-Hearth Incinerator. On April 29, 2016, EPA finalized the Federal Plan at Subpart LLL for the purpose of implementing the Emission Guidelines in states that had not yet adopted a state plan pursuant to Subpart M. Pennsylvania did not publish a state plan under Subpart M and requested delegation to implement and enforce the Federal Plan at Subpart LLL in August 2016. UMHJSA's Multi-Hearth Incinerator is an "existing sewage sludge incinerator" under Subparts M and LLL, both of which define the term to mean an incinerator constructed on or before

October 14, 2010. In August 2017, the Pennsylvania Department of Environmental Protection (“PADEP”) incorporated aspects of Subpart LLL into UMHJSA’s above-referenced Title V Operating Permit. In addition to obligations under Subpart LLL, the Facility’s Title V Operating Permit requires UMHJSA to control odors from the Facility.

To satisfy its odor obligations, UMHJSA uses three counter-current wet scrubbers that control odorous gases originating from the Facility’s sewage sludge processing areas. Scrubber # 1 controls odors from UMHJSA’s dewatering press room, Scrubber #2 controls odors from two holding tanks, and Scrubber #3 controls odors from the sludge transfer pits. The general configuration of Scrubber #1 in the vapor treatment process is more clearly shown in **Attachment A**.

In 2017, UMHJSA began to evaluate replacement alternatives for the wet scrubbers, with a special emphasis on improving worker safety, mitigation of potential accidental chemical releases, and reduction of the Facility’s carbon footprint. Based on that evaluation, UMHJSA has identified available odor control improvements. One improvement consists of redirecting the vapors currently controlled by Scrubbers #2 and #3 to adjacent aeration tanks for biologic oxidation of the odorous compounds in the vapors. Another improvement identified by UMHJSA is redirecting the vapors controlled by Scrubber #1 to the Multi-Hearth Incinerator, which will serve as an odor control device by incinerating the dewatering press room vapors to remove the odorous compounds contained therein, a process known as thermal oxidation.

This request for clarification relates only to the proposed incineration of the odorous gases from the dewatering press room in UMHJSA’s Multi-Hearth Incinerator unit. UMHJSA has previously shared information about this proposed project with EPA in a letter dated November 3, 2017, and the Agency issued a response on August 30, 2018 stating that such project would constitute a modification under Subpart LLL that would trigger an obligation to comply with the NSPS at Subpart LLLL. After a meeting with the Agency and PADEP on October 17, 2018, however, EPA invited UMHJSA to submit additional clarifying information relating to the proposed project. Through this submission, UMHJSA requests EPA’s concurrence that use of the existing Multi-Hearth Incinerator as an odor control device would not constitute a modification that would trigger the applicability of Subpart LLLL.

Under UMHJSA’s proposal, odorous vapors that originate in the dewatering press room during dewatering operations would be routed to the inlet of the Multi-Hearth Incinerator with required combustion air via preexisting ductwork that would be repurposed for this odor control objective, and no physical or operational changes to the Multi-Hearth Incinerator would be needed to use the incinerator as an odor control device. Given that the Multi-Hearth Incinerator operates at temperatures typically greater than 1,200°F in the combustion zone to incinerate sewage sludge, contemporaneous use of the incinerator as an odor control device will result in near total destruction of the odor-containing compounds in the dewatering press room vapors without any effect on the operating conditions governing the unit’s incineration of sewage sludge. Any resultant sulfur oxides generated by incineration of the press room vapors, which consist primarily of hydrogen sulfide and other sulfur-containing gases, would be controlled by

the Multi-Hearth Incinerator's existing air pollution control equipment, including a venturi scrubber, an impingement scrubber, and an afterburner, in that sequence. A block diagram depicting proposed project to redirect the dewatering press room vapors to the Multi-Hearth Incinerator is provided in **Attachment B**.

Use of the Multi-Hearth Incinerator as an odor control device would result in better odor control than is currently accomplished through use of Scrubber #1. What's more, UMHJSA will be able to use the Multi-Hearth Incinerator as an odor control device without making any physical or operational changes to the incinerator, including maintaining the feed rate of sewage sludge into the incinerator and maintaining the same operating temperature. In fact, other than the addition of the dewatering press room vapors with required combustion air, the Multi-Hearth Incinerator will continue to be operated in exactly the same manner, allowing UMHJSA to meet its odor control obligations through creative use of an existing asset without any impact on its compliance with Subpart LLL's emission limits. Use of the Multi-Hearth Incinerator as an odor control device would have the added benefit of increased worker safety through the elimination of hazardous chemicals (*i.e.*, sodium hydroxide and sodium hypochlorite) necessary to operate Scrubber #1; reduced energy through the elimination of pumps and the blower needed to operate Scrubber #1 and the chemical feed systems; and minimization of potential chemical releases of hazardous chemicals.

In addition to these advantages, use of the Multi-Hearth Incinerator for odor control would lead to a negligible increase of the unit's potential to emit sulfur dioxide emissions of only 0.16 tons/year, and all emissions from the Multi-Hearth Incinerator would remain less than the emission limits in Table 3 of Subpart LLL. *See Attachment C* for detailed emissions information.

UMHJSA believes that use of the Multi-Hearth Incinerator for incineration of the odorous dewatering press room vapors is not subject to regulation under Subparts MMMM and LLL, nor a "modification" of the existing incinerator that could trigger applicability of Subpart LLLL. Regulations that have been adopted by EPA pursuant to the Agency's authority under Section 129 of the CAA, such as Subparts MMMM and LLL, apply only to the incineration of solid waste. *See* 42 U.S.C. § 7429(a) (requiring EPA to impose standards for "solid waste incineration units"). For purposes of CAA Section 129, "solid waste" has the meaning established by EPA pursuant to the Agency's authority under the Resource Conservation and Recovery Act ("RCRA"). *See* 42 U.S.C. 7429(g)(6). In March 2011, EPA published the Non-hazardous Secondary Materials ("NHSM") Rule to define "solid waste" for purposes of compliance with CAA Section 129. The NHSM Rule defined "solid waste" by reference to EPA's existing RCRA regulations at 40 C.F.R. § 258.2, a provision that explicitly excludes non-contained gaseous streams such as those that originate in UMHJSA's dewatering press room like hydrogen sulfide and other sulfur-containing gases. This definition of "solid waste" is also included in Subparts MMMM and LLL (*see* 40 C.F.R. § 60.5250 and 40 C.F.R. § 62.16045) and EPA explicitly acknowledged in the preamble to the Federal Plan that 129 standards apply only to the incineration of solid waste. *See* 81 Fed. Reg. 26040, 26041 (Apr. 29, 2016).

In light of the CAA's mandate that regulations adopted pursuant to Section 129 apply only to solid waste incineration, EPA limited the application of Subparts Mmmm and Lll to incineration units that burn "sewage sludge," which is clearly defined by both regulations to mean only "solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in treatment works," not gaseous material. See 40 C.F.R. § 60.5250 and 40 C.F.R. § 62.16045. Based on CAA Section 129's limitation to the incineration of solid waste and the clear exclusion of gaseous material from the definition of "sewage sludge" in Subparts Mmmm and Lll, it is evident that use of the Multi-Hearth Incinerator for control of the odorous dewatering press room vapors is not subject to such standards.

EPA itself has previously determined that an incineration unit that would be used to combust gases originating in a separate part of a facility's process would not be subject to CAA Section 129 standards. In December 2013, EPA issued an applicability determination letter under Subpart Mmmm to MaxWest Environmental Systems Incorporated, which has been attached for your convenience at **Attachment D**. As EPA explains in the letter, MaxWest operated a "thermal oxidizer process heater" that combusted a synthetic gas called "syngas" derived from sewage sludge that was processed at a separate part of MaxWest's facility. Once generated, the syngas was combusted for energy recovery purposes to produce heat needed to dry incoming sewage sludge at MaxWest's facility. Although EPA acknowledged that the syngas was derived from sewage sludge, MaxWest's process heater did not constitute a "sewage sludge incinerator" under Subpart Mmmm because "the definition of sewage sludge is *expressly limited* to solid, semisolid, or liquid residue." Therefore, because "syngas is *a gas*, and not a solid semisolid, or liquid, *it does not meet the definition of sewage sludge in the EG rule* (even though it is derived from sewage sludge)." Like the syngas at the MaxWest facility, UMHJSA's dewatering press room vapors do not constitute "sewage sludge" because they are gaseous materials, even though such vapors derive from sewage sludge that is processed at the Facility. Therefore, the incineration of the dewatering press room vapors in the Multi-Hearth Incinerator cannot be subject to regulation under Subparts Mmmm or Lll.

Given that any emissions associated with incineration of the dewatering press room vapors would not be subject to Subparts Mmmm or Lll, such emissions also cannot serve as the basis for concluding that UMHJSA's proposed odor control project would constitute a modification that would trigger the need to comply with the NSPS at Subpart Llll. Although UMHJSA intends to incinerate the dewatering press room vapors in the Multi-Hearth Incinerator simultaneous with the incineration of sewage sludge, the emissions associated with the dewatering press room vapors alone would not be subject to Subparts Mmmm or Lll and thus cannot serve as the basis for a modification determination. EPA's general regulations at 40 C.F.R. Part 60, Subpart A – which provide detail about the meaning of the term "modification" as used in Part 60 standards – further clarify that an unregulated emissions increase cannot serve as a basis for a modification.<sup>1</sup> Subpart A defines "modification" to mean "any physical or operational change to an existing facility which results in an increase in the emission rate to the

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<sup>1</sup> 40 C.F.R. Part 62, Subpart A, the general regulations for standards under Part 62, incorporate the regulations at 40 C.F.R. Part 60, Subpart A by reference.

atmosphere of any *pollutant to which a standard applies.*" See 40 C.F.R. § 60.14. Thus, an emission increase itself must be subject to the relevant rule to constitute a "modification" under a Part 60 standard.

Because emissions associated with the incineration of the dewatering press room vapors would not be regulated by Subparts MMMM and LLL, use of the Multi-Hearth Incinerator as an odor control device could not constitute a "modification" triggering the need to comply with the NSPS. Nevertheless, UMHJSA's ability to satisfy all emission limits in Subpart LLL will remain unaffected by the addition of the press room vapors to the Multi-Hearth Incinerator. See **Attachment C**.

Furthermore, even if unregulated emissions could serve as a basis for a modification determination, Subpart A makes clear that use of the Multi-Hearth Incinerator for pollution control purposes would not be a modification under Subpart LLL, as Subpart A excludes from the definition of "modification" any use of existing equipment for pollution control purposes. At 40 C.F.R. § 60.14, EPA states that the "addition or *use of* any system or device whose primary function is the reduction of air pollutants" is not considered a modification, thereby encouraging the use of existing equipment for pollution control purposes. UMHJSA's proposal to use the Multi-Hearth Incinerator as an odor control device is with the specific intent of "reducing air pollution" in the form of odorous gases. Such use of existing equipment for pollution control purposes is clearly excluded from the meaning of "modification" in Part 60 and cannot subject the Multi-Hearth Incinerator to the more stringent NSPS on that basis.

Based on the information included within this letter, UMHJSA requests that EPA confirm that use of the Multi-Hearth Incinerator for odor control purposes will not constitute a modification under Subpart LLL that would trigger the obligation to comply with the NSPS at Subpart LLLL. UMHJSA further thanks the Agency for the opportunity to provide this updated information on the proposed project.

If you have any questions about the contents of this letter, please do not hesitate to contact me at the telephone number or email address provided below.

Very truly yours,  
Upper Moreland-Hathoro Joint Sewer Authority



Eric C. Lindhult, P.E.  
General Manager

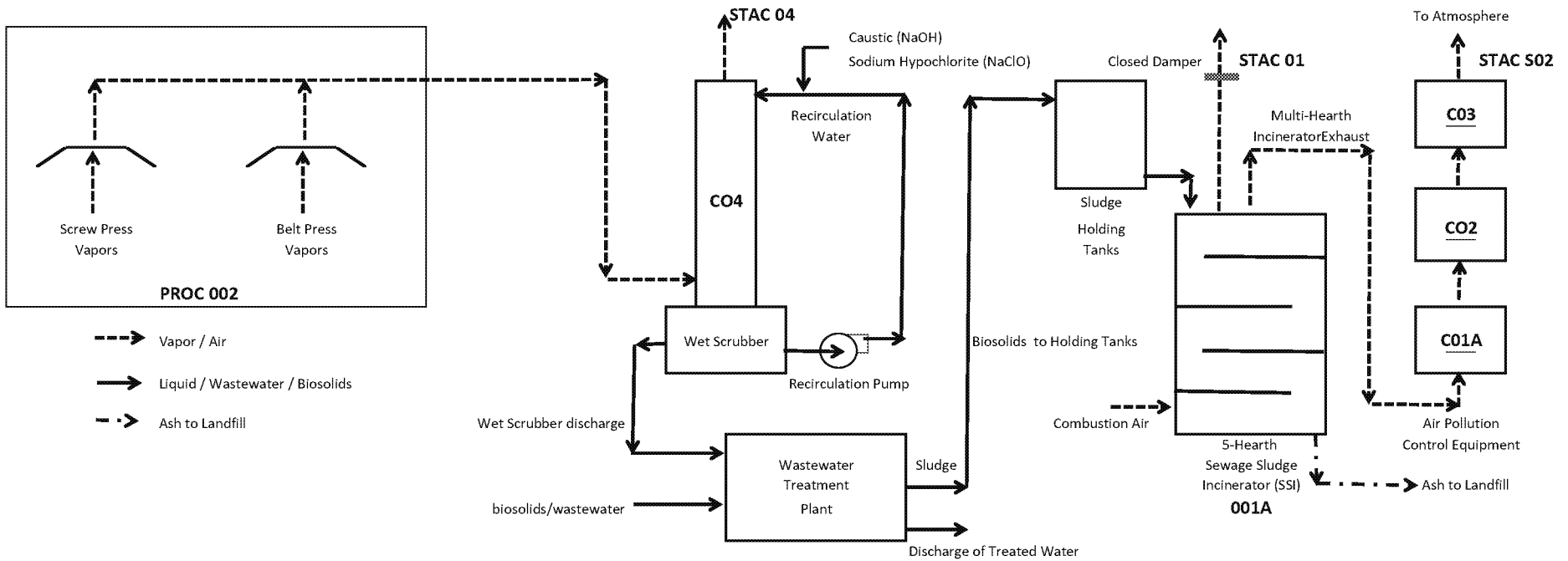
cc: Jillian Gallagher - PADEP (via email)  
Karen Baier - PADEP (via email)  
Karl Monninger - KEMS (via email)

# **ATTACHMENT A**

UPPER MORELAND-HATBORO JOINT SEWER AUTHORITY  
TVOP No. 46-00221

CURRENT ODOR CONTROL

EXISTING DEWATERING PRESS ROOM VAPOR TREATMENT PROCESS



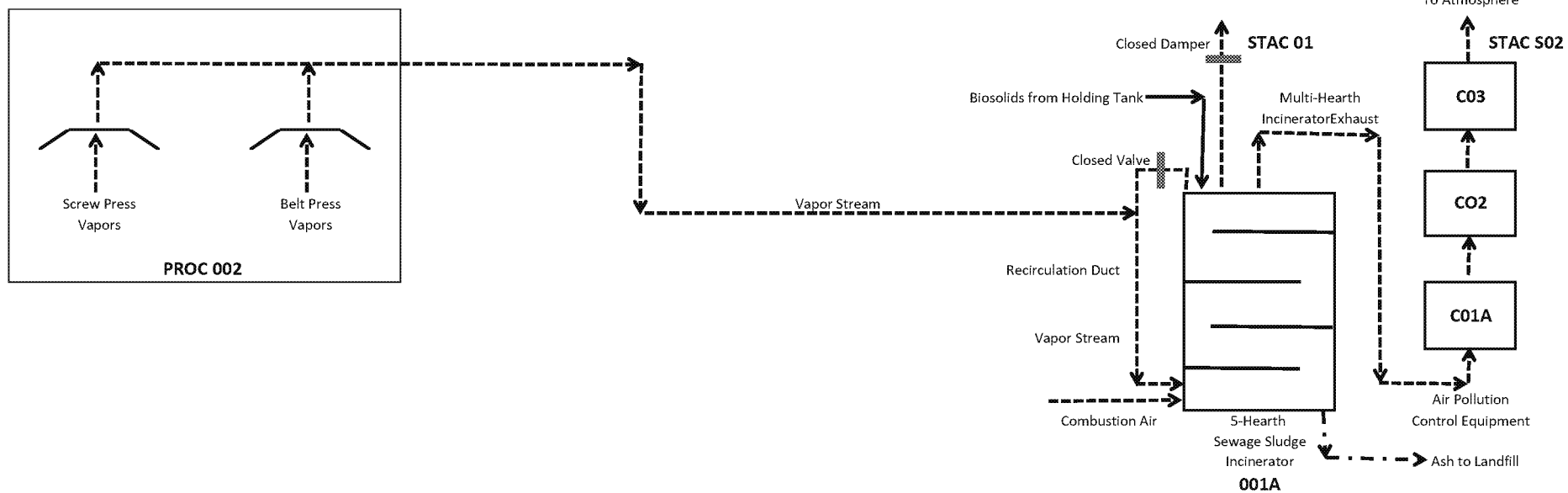
# **ATTACHMENT B**



UPPER MORELAND-HATBORO JOINT SEWER AUTHORITY  
TVOP No. 46-00221

PROPOSED ODOR CONTROL

PROPOSED DEWATERING PRESS ROOM VAPOR TREATMENT PROCESS



# **ATTACHMENT C**

## Attachment C Emission Information

Upon further analysis, the UMHJSA team re-evaluated the potential emissions from the Multi-Hearth Incinerator (“MHI”) when used as an odor control device for the incineration of odorous sulfur-containing gases, including primarily hydrogen sulfide, that originate in the dewatering press room during dewatering operations. UMHJSA originally presented potential emission calculations in its Plan Approval application to the Pennsylvania Department of Environmental Protection (dated September 28, 2017), utilizing best available data relative to odorous emissions generated from the dewatering press room. Namely, data from a July 2014 stack test of the odor control scrubber area from the controlled area was used for the potential emission calculations. This stack test data was then modified to incorporate a “safety factor” of approximately five times (5X) to conservatively estimate potential emissions from the dewatering press room during dewatering operations. These conservative calculations were then converted into theoretical inlet concentrations to the Multi-Hearth Incinerator based on the existing control efficiency of the odor control scrubber (*i.e.* 98.6%).

Our re-evaluation considered potential emissions from the Multi-Hearth Incinerator utilizing the July 2014 stack test data from the odor control scrubber, while removing the conservative assumptions utilized in the Plan Approval application which were determined to have incorporated an unnecessary degree of conservatism. Using the potential emission calculation methodology included in UMHJSA’s original Plan Approval application, and incorporating the actual recorded test results from the July 2014 re-test, UMHJSA would realize a reduced controlled emission of SO<sub>2</sub> from the project. UMHJSA also incorporated one-half of the detection limit (5 parts per billion by volume [ppbvd] instead of 10 ppbvd) for those compounds listed as non-detect, which we is reasonable and appropriate for emission estimation purposes. The resultant calculations yield approximately **0.16 tons/year** of potential additional SO<sub>2</sub> discharged due to the incineration of the odorous emissions (versus the originally calculated 0.65 tons/year). Revised potential emissions, based on the July 2014 stack test data, are as follows:

### Stack Test Data

Test Date	7/31/2014			Average July Test (ppbvd)
Test Run	1	2	3	
Hydrogen Sulfide	ND (5)	ND (5)	50	20
Carbonyl Sulfide	ND (5)	ND (5)	ND (5)	5
Methyl Mercaptan	53	24	61	46
Dimethyl Sulfide	ND (5)	ND (5)	13	8
Dimethyl Disulfide	16	13	13	14

### Revised Potential Emission Calculations for sulfur containing compounds

Example for Hydrogen Sulfide (w/molecular weight = 34):

- Convert ppbdv to units of  $\mu\text{g}/\text{m}^3$   
 $20 \text{ ppbdv} = (24.45) (\mu\text{g}/\text{m}^3) / 34 = 27.8 \mu\text{g}/\text{m}^3$
- Calculate mass emission rate  
 $27.8 \mu\text{g}/\text{m}^3 * 754,980 \text{ ft}^3/\text{hour} * 1\text{m}^3 / 35.31\text{ft}^3 = 0.59 \text{ grams}/\text{hour} = 0.0013 \text{ pounds}/\text{hour}$
- Convert from controlled to uncontrolled  
 $0.0013 \text{ pounds}/\text{hour} / (1-98.6\%) = 0.093 \text{ pounds}/\text{hour}$

Compound	Concentration Controlled (ppbdv)	Controlled Emission Rate (pounds/hour)	Uncontrolled Emission Rate (pounds/hour)
Hydrogen Sulfide	20	0.0013	0.093
Carbonyl Sulfide	5	0.00057	0.04
Methyl Mercaptan	46	0.0043	0.31
Dimethyl Sulfide	8	0.00096	0.07
Dimethyl Disulfide	14	0.0025	0.18
<b>Total</b>			<b>0.693</b>

#### Notes

- (1) Odor control scrubber control efficiency of 98.6%.
- (2) Used Flow rate of 12,583  $\text{ft}^3/\text{minute} = 754,980 \text{ ft}^3/\text{hour}$ .

The conversion of sulfur compounds like  $\text{H}_2\text{S}$  to  $\text{SO}_2$  is a one to one molar conversion, however, since the molecular weight of  $\text{SO}_2$  is greater than the molecular weight of sulfur, the conversion of one pound of sulfur generates approximately 1.998 pounds of  $\text{SO}_2$ . Therefore, conservatively assuming that all sulfur compounds will be 100% oxidized in the MHI, the revised potential additional uncontrolled emission rate of  $\text{SO}_2$  is 1.38 pounds/hour (*i.e.* 0.693 pounds/hour \* 1.998). Furthermore, emissions of  $\text{SO}_2$  are currently controlled from the MHI through a series of scrubbers with an estimated  $\text{SO}_2$  control efficiency of 97.3%. The resulting potential additional emissions of  $\text{SO}_2$  from the MHI would therefore be **0.16 tons/year**.

- Calculate potential additional uncontrolled  $\text{SO}_2$  emissions  
 $1.38 \text{ pounds}/\text{hour} * 8,760 \text{ hours}/\text{year} = 12,089 \text{ pounds}/\text{year}$
- Convert potential additional  $\text{SO}_2$  emissions from uncontrolled to controlled  
 $12,089 \text{ pounds}/\text{year} * (1-97.3\%) = 326 \text{ pounds}/\text{year} = 0.16 \text{ tons}/\text{year}$

### **Compliance with 40 CFR Part 62, Subpart LLL**

Based on recent testing and the monitoring of operating parameters, the MHI is currently meeting the federally enforceable SO<sub>2</sub> emission limit of 26 ppm<sub>dv</sub>. Following the introduction of the odorous air as described in the September 2017 Plan Approval application and this submission, it has been calculated that the MHI will continue to meet the SO<sub>2</sub> emission limit of 26 ppm<sub>dv</sub>. No other Emission Limits and Standards in Table 3 to Subpart LLL of Part 62 are implicated by the proposal. Based on information presently available to UMHJSA, estimated concentrations of SO<sub>2</sub> emissions from the MHI are estimated to approximate **19.5 ppm<sub>dv</sub>** and would be expected to remain below 26 ppm<sub>dv</sub>.

Basis for estimate includes:

- Maximum (December 2015) stack tested SO<sub>2</sub> emissions from MHI = 18.3 ppm<sub>dv</sub>.
- Additional potential controlled SO<sub>2</sub> emissions from MHI = 0.037 pounds/hour.
- Maximum (December 2015) stack tested volumetric flow rate from MHI = 5,012 ft<sup>3</sup>/min = 300,720 ft<sup>3</sup>/hour.
- Additional potential controlled SO<sub>2</sub> concentration from MHI = 1ppm<sub>dv</sub>

# **ATTACHMENT D**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

DEC 19 2013

OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSURANCE

Jeff Snyder  
Chief Marketing Officer  
MaxWest Environmental Systems Incorporated  
1485 International Parkway  
Suite 1031  
Lake Mary, Florida 32746

RE: Request for Determination of Applicability under 40 CFR Part 60, Subpart Mmmm - Emissions Guidelines and Compliance Timelines for Existing Sewage Sludge Incineration Units

Dear Mr. Snyder:

This letter is in response to your email of November 7, 2013, in which you inquired on the status of a September 24, 2013, request for applicability submitted on behalf of MaxWest Environmental Systems, Incorporated (MaxWest) by Ms. Bernadette Rappold, of McGuire Woods. Ms. Rappold requested a determination of applicability under 40 CFR Part 60, Subpart Mmmm - Emissions Guidelines and Compliance Timelines for Existing Sewage Sludge Incineration Units (SSI EG Rule) for a sewage sludge gasifier located in Sanford, Florida and owned by MaxWest. Your November 7, 2013 email confirms that the McGuire Woods' request for applicability is being made on behalf of MaxWest.

For the reasons stated below, the Environmental Protection Agency (EPA) believes that the neither the MaxWest sewage sludge gasifier nor thermal oxidizer process heater are subject to the SSI EG Rule.

### **Background**

According to the McGuire Woods' request, MaxWest constructed a fixed bed downdraft gasifier for processing biosolids<sup>1</sup> in late 2008. Operation began during September 2009. The original fixed bed downdraft gasifier was replaced with a fluidized bed design; construction on this unit began September 26, 2011<sup>2</sup>. According to information provided in your letter, the current process involves a continuous feed of dried biosolids into the gasifier. The gasifier is operated in an oxygen-starved environment at a temperature of approximately 704 degrees celcius (°C). No flame is applied to the sewage sludge in the gasifier, nor is a flame propagated as a result of the heating. The gasifier produces what is called a synthetic gas or "syngas." Once the syngas exits the gasifier, it is routed through a particulate matter cyclone and then to a process heater and heat exchanger for heat recovery. The

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<sup>1</sup> MaxWest provides that the biosolid feed to the gasifier is sewage sludge.

<sup>2</sup> In determining applicability to Subpart Mmmm, the EPA used the "commenced construction" dates as provided by MaxWest. In other words, we did not determine if the applicability of Subpart LLLL at Section 60.4775 applies instead.

syngas is combusted in the process heater to generate the heat needed to dry new incoming sludge. The flue gas exiting the process heater and heat exchanger is routed to a baghouse and a wet scrubber.

### **EPA Response**

As means of background, an emissions guideline (such as the SSI EG) does not apply directly to a source. Instead, the emissions guideline applies to Administrators of air quality programs in a state or in a United States protectorate. The emissions guideline directs those Administrators on the content, timing, and requirements for developing a state plan in order to implement the guideline. A state is required to submit a plan for approval to EPA, to implement and enforce the EG, not later than 1 year after EPA promulgates the EG. See U.S.C. §7429(b)(2). If a state has not submitted an approvable plan within two years after the date of promulgation of an EG, then the EPA shall develop, implement and enforce a federal plan. See U.S.C. §7429(b)(3). Emissions guidelines are not enforceable until the EPA approves a state plan (or adopts a federal plan that implements and enforces the guideline), and the state (or federal) plan has become effective. The SSI EG was promulgated on March 21, 2011, and Florida did not submit a state plan for the SSI EG by the March 21, 2012, deadline. See Section 60.5005(b). EPA is currently drafting a proposed federal implementation plan.

For the purposes of this response, we are determining whether MaxWest owns and operates an SSI as that term is defined in the SSI EG Rule, and therefore, whether the SSI Federal Plan would be applicable, once finalized.

According to Section 60.5060, the SSI EG rule applies to SSI units that are constructed on or before October 14, 2010, or modified on or before September 21, 2011.

An SSI unit is defined at Section 60.5250 as:

... an incineration unit combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter. Sewage sludge incineration unit designs include fluidized bed and multiple hearth. A SSI unit also includes, but is not limited to, the sewage sludge feed system, auxiliary fuel feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The SSI unit includes all ash handling systems connected to the bottom ash handling system. The combustion unit bottom ash system ends at the truck loading station or similar equipment that transfers the ash to final disposal. The SSI unit does not include air pollution control equipment or the stack.

Sewage sludge is also defined at Section 60.5250 as:

... [a] solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash



generated during the firing of sewage sludge in a sewage sludge incineration unit or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

The preamble to March 21, 2011, final rule describes an SSI unit as "an enclosed device or devices using controlled flame combustion that burns sewage sludge for the purpose of reducing the volume of sewage sludge by removing combustible matter." See 76 FR 15372. According to the information provided by MaxWest, no flame is applied or propagated in the gasifier and the gasifier prevents combustion by limiting the air-to-sludge ratio such that combustion cannot occur. Therefore, we do not believe that the gasifier is an SSI, because it does not combust sewage sludge.

With regard to the thermal oxidizer process heater, combustion of the syngas does take place in this unit. The definition of sewage sludge at Section 60.3930 includes "material derived from sewage sludge." According to the information provided by Maxwest, the syngas is derived from sewage sludge through the gasification process. The definition of sewage sludge is expressly limited to the "solid, semisolid, or liquid residue generated during the treatment of domestic sludge in a treatment works." Since syngas is a gas, and not a solid, semisolid, or liquid, it does not meet the definition of sewage sludge in the SSI EG rule (even though it is derived from sewage sludge). Therefore, EPA believes that the combustion of the syngas in MaxWest's thermal oxidizer process heater is not subject to the SSI EG Rule.

On December 7, 2010, EPA issued an applicability determination under 40 CFR 61, Subpart E, for MaxWest's Sanford fixed bed downdraft gasifier and thermal oxidizer process heater. See enclosure. See also Control Number Z130001 at: [www.epa.gov/compliance/monitoring/programs/caa/adi.html](http://www.epa.gov/compliance/monitoring/programs/caa/adi.html). EPA promulgated the Part 61 emissions standards in 1975 under the authority of Section 112 (hazardous air pollutants) that existed at that time and prior to the enactment of Section 129 in the 1990 Clean Air Act Amendments. The provisions of the Part 61 regulations continue to apply as described in that determination and are unrelated to the SSI EG rule.

This response was coordinated with the Office of General Counsel, EPA Region 4, and the Office of Air Quality Planning and Standards, and is based on the information provided by MaxWest and counsel. If you have any additional questions, please contact Marcia Mia of my staff, at: (202) 564-7042 or by email at: [mia.marcia@epa.gov](mailto:mia.marcia@epa.gov).

Sincerely,



Edward Messina, Director  
Monitoring, Assistance, and Media Programs Division  
Office of Compliance

Enclosure

cc: Bernadette Rappold, McGuire Woods  
Cameron Prell, McGuire Woods  
Lisa Sharp, McGuire Woods